

**FIREARMS CLEANING KIT**

This application claims the benefit of U.S. Provisional Application Serial No. 60/405,275, filed on August 22, 2002, the disclosure of which is incorporated herein by reference.

**BACKGROUND OF THE INVENTION**

[0001] The present invention relates in general to apparatus used for cleaning gun bores, and more particularly to a gun cleaning kit that can be carried easily by a hunter or marksman in the field.

[0002] Cleaning and polishing the gun bore can significantly improve shooting accuracy and consistency. The sooner copper, powder and lead fouling are removed from the bore or barrel, the easier is the cleaning task. Timely cleaning can even preserve the value of the gun. Therefore, frequent cleaning is desirable.

[0003] One problem often encountered when hunting is that the hunter trips and the muzzle of the rifle or shotgun is jammed into the earth or snow, blocking the muzzle and the barrel. This can be dangerous, since should the firearm be fired with the obstruction in the barrel it could explode, possibly harming the shooter.

[0004] The gun cleaning process is quite simple. A bore cleaning kit typically includes a cleaning rod, brushes and jag attachments of appropriate caliber, pre-cut patches, and cleaning solvent. Immediately after shooting or hunting, the barrel is cleaned using a solvent-bearing brush attached to the end of the cleaning rod which is run through the bore to loosen residue. This is followed by a jag-mounted patch impregnated with solvent to mop out any loose residue and dirt. Patches containing cleaning solvents are run through

the bore until a patch comes out clean. A dry patch may then be run through the bore.

[0005] Gun cleaning kits typically contain a collection of materials used to clean and oil a gun. These cleaning kits have not changed much since the 1920's, but the way in which people hunt has changed. No longer do hunters have gun bearers, nor do hunters hunt from a horse drawn wagon or motorized vehicle. Today hunters trek off into the bush, carrying whatever they believe will be needed to sustain them for the length of time they will stay in the woods.

[0006] However, hunters in the field and recreational shooters rarely carry gun cleaning kits due to the size and bulk of conventional kits. The existing kits are too large to be carried easily, and the cleaning fluids and oils used in the kits have a strong odor that can be smelled at quite a distance by wary game animals. One reason that the game animals can smell these fluids is that the bottles in which they are sold can easily leak, break or be punctured or crushed.

[0007] Accordingly, it is desirable to have a kit designed to make firearms cleaning in the field, or on the shooting range, as efficient, easy, and scent free as possible.

#### SUMMARY OF THE INVENTION

[0008] According to the present invention, a new and improved firearm cleaning kit is provided.

[0009] In accordance with one aspect of the invention, the firearm cleaning kit includes a housing having a plurality of chambers defining openings. The kit further includes lids for covering the chambers and forming seals that minimize any odor from escaping the chamber when the lid is closed.

[0010] In accordance with another aspect of the invention, the gun cleaning kit includes a housing defining a first chamber and a second chamber. A lid attaches to the housing

and is adapted to selectively close the first chamber. An internal wall is disposed in the housing for providing an impervious barrier between the first chamber and the second chamber.

[0011] In accordance with another aspect of the invention, a method of cleaning a gun is provided. The method of cleaning a bore of a gun includes providing a kit having patches pre-moistened with a gun cleaning chemical and running one of the pre-moistened patches through a bore of an associated gun.

[0012] The advantages and benefits of the present invention will become apparent to those of ordinary skill in the art upon reading and understanding the following detailed description of the preferred embodiments.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The drawings are only for purposes of illustrating preferred embodiments and are not to be construed as limiting the invention. The invention may take form in various components and arrangement of components, and in various steps and arrangements of steps, preferred embodiments of which will be illustrated in the accompanying drawings wherein:

[0014] FIGURE 1 is a front perspective view of a first embodiment of the gun cleaning kit in accordance with the invention;

[0015] FIGURE 2 is a rear perspective view of the gun cleaning kit shown in FIGURE 1, with the lids removed;

[0016] FIGURE 3 is a perspective view of a chamber of the gun cleaning kit without a lid adapted to store patches pre-moistened with gun oil;

[0017] FIGURE 4 is a perspective view of a chamber of the gun cleaning kit without a lid adapted to store patches pre-moistened with gun cleaner; and

[0018] FIGURE 5 is a front perspective view of a second embodiment of the gun cleaning kit in accordance with the invention.

#### DETAILED DESCRIPTION OF THE INVENTION

[0019] It is to be understood that the specific devices and processes illustrated in the attached drawings, and described in the following specification are simply exemplary embodiments of the inventive concepts. Hence, specific examples and characteristics relating to the embodiments disclosed herein are not to be considered as limiting.

[0020] Referring to FIGS. 1 and 2, a firearm cleaning kit shown generally at 10 includes a housing 12. The housing is made of a plastic or other material that is impervious to the chemicals used in cleaning and oiling firearms. The housing material also preferably resists crushing and puncturing.

[0021] The housing 12 includes chambers 14, 16, 18 and 20 each chamber having an opening 24, 26, 28 and 30. The exact number of chambers is not critical, however four chambers will be described. One or more of the chambers is adapted to hold moistened patches 22, as discussed in further detail below.

[0022] Each opening 24, 26, 28 and 30 can be covered by a lid 34, 36, 38 and 40, respectively. The lid is preferably attached to the housing when the opening is uncovered. Attaching the open lid to the housing lessens the chances of losing the lid in the field. The lid can be attached by a hinge, a string or chain, or in any other suitable known manner. When closed, the lids 34, 36, 38 and 40 form a seal which minimizes the release of fumes and/or odors from the chambers. The seal can be formed in any suitable known manner. The lids can close with a snapping sound, or another audible indicator, to indicate closure and that the seal has been formed. Accordingly, the lid, the housing or both can be

made to provide the audible indication that the chamber has been sealed.

[0023] In alternative embodiments only certain compartments secure to a condition that minimizes the escape of fumes and/or odors, preferably the compartments that may carry items having a strong odor and/or moistened patches. Furthermore, less than four lids can be provided. For example, one lid could cover two compartments.

[0024] The chambers 14, 16, 18 and 20 are separated from one another in the housing 12 by internal walls 44, 46 and 48 (FIG. 2). The internal walls 44 - 48 and the lids 34 - 40 are made of the same impervious material as the housing.

[0025] One or more of the chambers is adapted to store pre-moistened gun cleaning patches 22. For example in the preferred embodiment, chamber 14 can be used to store a plurality of patches 22a (FIG. 3) that are pre-moistened with bore cleaner. Lid 34 covers opening 24 to form a seal to minimize fumes and/or odors from the patches 22a pre-moistened with bore cleaner from escaping. The seal not only inhibits fumes and/or odors from escaping, the seal also inhibits evaporation keeping the patches moist for an extended period of time.

[0026] Chamber 16 is used to store patches 22b (FIG. 4) that are pre-moistened with gun oil. Again, this chamber is also designed to hold a plurality of patches 22b. With the seal formed when the opening 26 is closed by lid 36, minimal scent can escape from chamber 16 that might be detected by an animal and minimal evaporation can occur. Furthermore, the internal wall 44 divides the bore cleaner chamber 14 from the gun oil chamber 16. The wall 44 is made from a plastic that is impervious to the cleaning chemicals used in cleaning and oiling firearms so that no cross-contamination between the chambers can occur.

[0027] Chamber 18 can be used to store dry patches. The dry patches are used to wipe the bore after the pre-moistened patches have been used. Also, the impervious internal wall 46 divides the dry patch chamber 18 from the gun oil chamber 16 so that no cross-contamination may occur.

[0028] Chamber 20 is adapted for storing other cleaning accessories, including but not limited to, a bore or barrel cleaning rod, a brush and a jag. Both the bore cleaning brush and the jag can be made of nylon. Chamber 20 may also store a flexible, pull-through cleaning rod having a threaded ferrule that can accept the brushes and jag. Chamber 20 may also store a rod having a screw-to-assemble T-handle that is assembled by screwing the rod together. The rod may be disassembled to be stored in the chamber 20. Internal wall 48 divides the storage chamber 20 from the dry patch chamber 18.

[0029] Lid 40 covers opening 20 to retain the stored implements inside the chamber. Lid 40 can form a seal with housing 12. Lid 40 snaps when closed so that the lid will not open during jostling or other movement, including inverting the kit 10.

[0030] The exact location and positioning of the chambers with respect to one another is not critical. The chambers may be positioned in any order and may be horizontal as opposed to the vertical orientation shown in FIGS. 1 and 2.

[0031] The gun cleaning kit 10 can also include straps or other equipment so that the kit can be carried easily while hunting. Referring specifically to FIG. 2, the gun cleaning kit 10 may have loops 60 and 62 mounted to a rear wall 64 of the housing 12. The loops 60, 62 allow the user to place the cleaning kit in a backpack or other carrying implement. In an alternative embodiment, clips, snaps, hook and loop fasteners or other known elements can be used so that the housing 12 can attach to a hunter's belt.

[0032] Chambers 14 - 18 are designed to hold a plurality of cleaning patches 22, and in the embodiment shown in FIGS. 1 and 2, each chamber that holds patches is designed to hold 300 patches though it may be sized to hold any suitable number. The patches 22 are disposed in the chambers in a manner that allows them to be removed individually. For example, the patches can be separate and be folded together to be dispensed similar to facial tissue. As seen in FIG. 3 and 4, the cleaning patches 22a and 22b may be accordion folded having perforations 32a and 32b so as to tear off easily when needed.

[0033] Referring now to FIG. 5, another embodiment of a firearm cleaning kit is shown generally at 100. The gun cleaning kit 100 includes a housing 112 made of plastic or other material that is impervious to the cleaning chemicals used in cleaning and oiling firearms. The housing 112 includes chambers 114, 116, 118 and 120 each chamber having an opening 124, 126, 128 and 130, respectively. As with the kit shown in FIGS. 1 and 2, the exact number of chambers is not critical, however four chambers will be described.

[0034] Each opening 124, 126, 128 and 130 can be covered by a lid 134, 136, 138 and 140, respectively. Lids 134, 136, and 138 can be hingedly attached to an upper edge 142 of the housing 112. Lid 140 may be hingedly attached to a wall 144 of the housing 112. The chambers 114, 116 and 118 may be separated from one another in the housing 112 by internal walls 146 and 148. Chamber wall 150 separates chamber 120 from chambers 114, 116, and 118. The internal walls 146 and 148, chamber wall 150 and lids 134 - 140 are made of the same impervious material as the housing. The lids 134, 136, 138 and 140 can snap closed for a seal, so that minimal fumes and/or odors are released from the compartments when they are closed. Also, lid 140 covers opening 120 to retain the stored implements inside the chamber. Lid 140 can form a seal with housing 112. Lid 140 snaps when closed so that the lid will

not open during jostling or other movement, including inverting the kit 110. In other embodiments only certain compartments may secure to a sealed condition.

[0035] Similar to the gun cleaning kit shown in FIGS. 1 and 2, two of the chambers can store a plurality of pre-moistened patches impregnated with bore cleaning solution and gun oil. Another chamber can hold dry patches. The patches may be accordion folded with perforations so as to tear off easily when needed. In the embodiment shown in FIG. 5, the patches are stored in the uppermost chambers 114 - 118. The internal walls 146 and 148 and the chamber wall 150 insure that no cross-contamination occurs.

[0036] Chamber 120 may be located below and spaced from the three uppermost chambers 114 - 118. In the embodiment shown in FIG. 5, chamber 120 is horizontally disposed, while chambers 114 - 118 are disposed vertically. Chamber 120 is used to store the same or similar gun cleaning implements as those that are held in chamber 20 shown in FIGS. 1 and 2.

[0037] Similar to the kit shown in FIG. 2, the kit 100 shown in FIG. 5 may have loops (not shown) attached to the rear of the kit. The loops allow the hunter or shooter to place the kit on the hunter's belt.

[0038] Each kit disclosed can be unique to a specific caliber, millimeter, or gauge of shotgun, pistol or rifle. Furthermore alternate orientations of the chambers may be offered and additional chambers may be added.

[0039] Since the kit can be mounted directly on a hunter's belt, the housing should be as compact as possible. Furthermore, since the kit is to be used in the field it should contain everything needed to allow a shooter to clear a blocked barrel, or to clean his rifle, pistol, or shotgun, eliminating the need for a larger more awkward gun cleaning kit. Additionally, since the kit is to be used while hunting, the scent of the pre-moistened patches needs to be contained.



If the smell of the cleaning liquid or gun oil is allowed to escape, game animals at distances as great as a mile or more away may smell the contents of the hunter's gun cleaning kit and avoid the hunter.

[0040] The invention has been described with reference to the preferred embodiments. Obviously, modifications and alterations will occur to others upon reading and understanding the preceding detailed description. It is intended that the invention be construed as including all such modifications and alterations.